

- Interdependence
- One of the Ten Principles from Chapter 1:
Trade can make everyone better off.
- We now learn why people—and nations—choose to be interdependent, and how they can gain from trade.
- Our Example
- Two countries: the U.S. and Japan
- Two goods: computers and wheat
- One resource: labor, measured in hours
- We will look at how much of both goods each country produces and consumes
 - if the country chooses to be self-sufficient
 - if it trades with the other country
- Production Possibilities in the U.S.
- The U.S. has 50,000 hours of labor available for production, per month.
- Producing one computer requires 100 hours of labor.
- Producing one ton of wheat requires 10 hours of labor.

Use the following information to draw Japan's PPF.

- Japan has 30,000 hours of labor available for production, per month.
 - Producing one computer requires 125 hours of labor.
 - Producing one ton of wheat requires 25 hours of labor.
- Your graph should measure computers on the horizontal axis.

Consumption With and Without Trade

- Without trade,
 - U.S. consumers get 250 computers and 2500 tons wheat.
 - Japanese consumers get 120 computers and 600 tons wheat.
 - We will compare consumption without trade to consumption with trade.
 - First, we need to see how much of each good is produced and traded by the two countries.
1. Suppose the U.S. produces 3400 tons of wheat. How many computers would the U.S. be able to produce with its remaining labor? Draw the point representing this combination of computers and wheat on the U.S. PPF.
 2. Suppose Japan produces 240 computers. How many tons of wheat would Japan be able to produce with its remaining labor? Draw this point on Japan's PPF.
- Exports & Imports
 - **Exports:**
goods produced domestically and sold abroad
To export means to sell domestically produced goods abroad.
 - **Imports:**
goods produced abroad and sold domestically
To import means to purchase goods produced in other countries.

■ ACTIVE LEARNING 3

Consumption under trade

Suppose the U.S. exports 700 tons of wheat to Japan, and imports 110 computers from Japan.

(So, Japan imports 700 tons wheat and exports 110 computers.)

- How much of each good is consumed in the U.S.? Plot this combination on the U.S. PPF.
- How much of each good is consumed in Japan? Plot this combination on Japan's PPF.
- Where Do These Gains Come From?
- **Absolute advantage:** the ability to produce a good using fewer inputs than another producer
- The U.S. has an absolute advantage in wheat: producing a ton of wheat uses 10 labor hours in the U.S. vs. 25 in Japan.
- If each country has an absolute advantage in one good and specializes in that good, then both countries can gain from trade.
- Two Measures of the Cost of a Good
- Two countries can gain from trade when each specializes in the good it produces at lowest cost.
- Absolute advantage measures the cost of a good in terms of the inputs required to produce it.
- Recall:
Another measure of cost is *opportunity cost*.
- In our example, the opportunity cost of a computer is the amount of wheat that could be produced using the labor needed to produce one computer.

Opportunity Cost and Comparative Advantage

- **Comparative advantage:** the ability to produce a good at a lower opportunity cost than another producer
- Which country has the comparative advantage in computers?
- To answer this, must determine the opportunity cost of a computer in each country.
- Comparative Advantage and Trade
- Gains from trade arise from comparative advantage (differences in opportunity costs).
- When each country specializes in the good(s) in which it has a comparative advantage, total production in all countries is higher, the world's "economic pie" is bigger, and all countries can gain from trade.
- The same applies to individual producers (like the farmer and the rancher) specializing in different goods and trading with each other.

■ ACTIVE LEARNING 4

Absolute and comparative advantage

Argentina and Brazil each have 10,000 hours of labor per month. In Argentina,

- producing one pound coffee requires 2 hours
 - producing one bottle wine requires 4 hours
- In Brazil,
- producing one pound coffee requires 1 hour
 - producing one bottle wine requires 5 hours

Which country has an absolute advantage in the production of coffee? Which country has a comparative advantage in the production of wine?